MUG BRILLIANT GREEN BILE BROTH TM 1026

for detection of *Escherichia coli* in water and food by a fluorogenic method

Composition

Ingredients	Gms/Ltr.
Pancreatic digest of gelatin	10.000
Lactose	10.000
Oxgall	20.000
Brilliant green	0.0133
4-Methylumbelliferyl ß-D-Glucuronide (MUG)	0.050

* Dehydrated powder, store in a dry place, in tightly-sealed containers at 24°C and protect from direct Sunlight.

Instructions for Use

Dissolve 40.10 gms in 1000 ml of distilled water. Heat if necessary to ensure completely solution. Dispense 10 ml amounts in test tubes containing inverted Durham's tubes. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.

For testing larger quantities of sample prepare concentrated medium to accommodate volume of the test sample.

Appearance: Emerald green coloured clear solution
PH (at 25°C): 7.2 ± 0.2

Principle

MUG BRILLIANT GREEN BILE BROTH is for detection of *Escherichia coli* in water and food by a fluorogenic method.

Pancreatic digest of gelatin serves as a source of essential nutrients. Lactose is the fermentable carbohydrate. Ox gall inhibits gram-positive bacteria whereas the gram-negative bacteria are inhibited by brilliant green. Production of gas from lactose fermentation is detected by incorporating inverted Durham's tube, which indicates the positive evidence of faecal coliform since non faecal coliforms growing in this medium do not produce gas. Gram-positive spore formers may produce gas if the bile or brilliant green inhibition is weakened by reaction with food material. The fluorogenic compound, MUG (4-Methylumbelliferyl β-D-glucuronide) in the medium permits the rapid detection of *E.coli* which produces a blue fluorescence when hydrolyzed by the enzyme β-glucuronidase and is observed using a long-wave UV light source.

Interpretation

Cultural characteristics observed after incubation at 35 - 37°C for 18 - 24 hours.

Microorganisms	ATCC	Inoculum (CFU)	Growth	Gas	Fluorescence At 366 nm
Escherichia coli	25922	10^3	Luxuriant	Positive	Positive (by adding 0.2N NaOH)
Enterobacter aerogenes	13048	10^3	Luxuriant	Positive	Negative
Enterococcus faecalis	29212	10^3	None-Poor	Negative	Negative
Staphylococcus aureus	25923	>=10^3	Inhibited	--	--

References

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